January 26, 2004

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Juliana Hermes

Application Number	10/656,802	
Filing Date	September 4, 2003	
First Named Inventor	Erik Scher	
Group Art Unit	1753	
Examiner Name	Unassigned	
Attorney Docket Number	40-001320US	

Total Number of Pages III This Subin	Actorney Docket Number	•
	ENCLOSURES (check all that ap	ply)
Fee Transmittal Form	Assignment Papers (for an Application)	After Allowance Communication to Group
Fee Attached	Drawing(s)	Appeal Communication to Board of Appeals and Interferences
Amendment / Response	Licensing-related Papers	Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
After Final	Petition Routing Slip (PTO/SB/69) and Accompanying Petition	Proprietary Information
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Certified Copy of Priority Document(s)  Response to Missing Parts/ Incomplete Application	Authorization to Charge Deposit Account Please charge Deposit Account No. 50-0893 this paper or during the pendency of this app for consideration of the documents enclosed.	lication, including any extensions of time
Response to Missing Parts under 37 CFR 1.52 or 1.53	Remarks	
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Date January 26, 20		
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QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C.

By Alliana Hermes

Attorney Docket No. 40-001320US Client Ref. No. 01-001320US

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Erik Scher, et al.

Application No.: 10/656,802

Filed: September 4, 2003

For: NANOSTRUCTURE AND

NANOCOMPOSITE BASED

COMPOSITIONS AND

PHOTOVOLTAIC DEVICES

Examiner: Unassigned

Art Unit: 1753

INFORMATION DISCLOSURE

STATEMENT UNDER 37 CFR § 1.97 and

§ 1.98

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

The references cited on attached form PTO-1449 are being called to the attention of the Examiner. Copies of the references are enclosed. It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no

Erik Scher, et al.

Application No.: 10/656,802

Page 2

representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that <u>no fee is required</u> for submission of this statement, since it is being submitted prior to the first Office Action on the merits per 37 CFR 1.97(b)(3). However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 50-0893. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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PATRADE

Complete if Known

Application Number 10/656,802

Filing Date September 4, 2003

First Named Inventor Erik Scher

Group Art Unit 1753

Examiner Name Unassigned

Attorney Docket Number 40-001320US

Date Submitted January 26, 2004

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				S. PATENT DOCUMENTS		
Examiner Initials	Cite No.	U.S. Patent Docum Number	ent Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
	1	5,505,928		Alivisatos et al.	04-19-1996	
	2	5,690,807		Clark Jr. et al.	11-27-1997	
	3	5,751,018		Alivisatos et al.	05-12-1998	
	4	5,897,945		Lieber et al.	04-27-1999	
	5	5,990,479		Weiss et al	11-23-1999	
	6	5,997,832		Lieber et al.	12-07-1999	
	7	6,036,774		Lieber et al	03-14-2000	
	8	6,048,616		Gallagher et al.	04-11-2000	
	9	6,136,156		El-Shall, et al.	10-24-2000	
	10	6,225,198		Alivisatos et al.	05-01-2001	
	11	6,239,355		Salafsky	05-29-2001	
	12	6,245,988		Gratzel et al.	06-12-2001	
	13	6,306,736		Alivisatos et al.	10-23-2001	
,	14	6,413,489		Ying et al.	07-02-2002	
	15	20020071952		Bawendi et al.	06-13-2002	
	16	2002/0130311		Lieber et al.	09-19-2002	
	17	2002/0172820		Majumdar et al.	11-21-2002	
	18	10/405,914		Empedocles, et al.	04-01-2003	

			-	FOREIGI	N PATENT DOCUMEN	TS		
Examiner Initials	Cite No.	Office	Foreign Patent Docu	Kind Code (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	Т
	19	wo	94/04497		Ecole Polytechinique Federale de Lausanne (EPFL)	03-03-1994		
	20	wo	95/29924		Ecole	11-09-1995		

1	Examiner	Date
	Signature	Considered

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Complete if Known Application Number 10/656,802 September 4, 2003 Filing Date Erik Scher First Named Inventor Group Art Unit 1753 Unassigned **Examiner Name** Attorney Docket Number 40-001320US January 26, 2004 Date Submitted

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			Polytechinique Federale de Lausanne (EPFL)		
21	wo	02/17362	President and Fellows of Harvard College	02-28-2002	
22	wo	02/080280	The Regents of the University of California	10-10-2002	
 23	wo	03/085700	Nanosys, Inc.	10-16-2003	

		OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	_
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	1
	24	Bjork et al. (2002) "One-dimensional steeplechase for electrons realized" Nano Letters 2, 86-90	
	25	Cao et al. (2000) "Growth and properties of semiconductor core/shell nanocrystals with InAs cores" J. Am. Chem. Soc. 122, 9692-9702	
	26	Cui et al. (2000) "Doping and electrical transport in silicon nanowires" <u>J. Phys. Chem. B</u> 104, 5213-5216	
	27	Cui et al. (2001) "Diameter-controlled synthesis of single-crystal silicon nanowires" Appl. Phys. Lett. 78, 2214-2216;	
	28	Dabbousi et al. (1997) "(CdSe)ZnS core-shell quantum dots: Synthesis and characterization of a size series of highly luminescent nanocrysallites" <u>J. Phys. Chem. B</u> 101, 9463-9475	
,	29	Duan et al. (2000) "General synthesis of compound semiconductor nanowires" Adv. Mater. 12, 298-302	
	30	Greenham et al., (1996) "Charge separation and transport in conjugated-polymer/semiconductor-nanocrystal composites studied by photoluminescence quenching and photoconductivity" Phys. Rev. B 54(24):17628-17637.	
	31	Gudiksen et al (2000) "Diameter-selective synthesis of semiconductor nanowires" <u>J. Am. Chem. Soc.</u> 122, 8801-8802	
	32	Gudiksen et al. (2001) "Synthetic control of the diameter and length of single crystal semiconductor nanowires" J. Phys. Chem. B 105,4062-4064	
	33	Gudiksen et al. (2002) "Growth of nanowire superlattice structures for nanoscale photonics and electronics" Nature 415, 617-620	

Examiner	Date	
Signature	Considered	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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January 26, 2004

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**Date Submitted** 

TRADE

34	Huynh, et al., (1999) "CdSe Nanocrystal Rods/Poly(3-hexylthiophene) Composite Photovoltaic Devices" Adv. Materials 11(11):923-927.	
35	Huynh, et al., (2002) "Hybrid Nanorod-Polymer Solar Cells" Science 295(5564):2426-2427	
36	Jun et al. (2001) "Controlled synthesis of multi-armed CdS nanorod architectures using monosurfactant system" <u>J. Am. Chem. Soc.</u> 123, 5150-5151	
37	Liu et al. (2001) "Sol-Gel Synthesis of Free-Standing Ferroelectric Lead Zirconate Titanate Nanoparticles" J. Am. Chem. Soc. 123, 4344	
38	Manna et al. (2000) <u>"Synthesis of Soluble and Processable Rod-,Arrow-, Teardrop-, and Tetrapod-Shaped CdSe Nanocrystals"</u> J. Am. Chem. Soc. 122, 12700-12706	
39	Manna et al. (2002) "Epitaxial growth and photochemical annealing of graded CdS/ZnS shells on colloidal CdSe nanorods" J. Am. Chem. Soc. 124, 7136-7145	
40	Morales et al. (1998) "A laser ablation method for the synthesis of crystalline semiconductor nanowires" Science 279, 208-211	
41	Peng et al. (1997) "Epitaxial growth of highly luminescent CdSe/CdS core/shell nanocrystals with photostability and electronic accessibility" J. Am. Chem. Soc. 119, 7019-7029	
42	Peng et al. (2000) "Shape control of CdSe nanocrystals" Nature 404, 59-61	
43	Puntes et al. (2001) "Colloidal nanocrystal shape and size control: The case of cobalt" Science 291, 2115-2117	
44	Urban et al. (2002) "Synthesis of single-crystalline perovskite nanowires composed of barium titanate and strontium titanate" <u>J. Am. Chem. Soc.</u> , 124, 1186	
45	Wu et al. (2002) "Block-by-block growth of single-crystalline Si/SiGe superlattice nanowires" Nano Letters 2, 83-86	
46	Yun et al. (2002) "Ferroelectric Properties of Individual Barium Titanate Nanowires Investigated by Scanned Probe Microscopy" Nanoletters 2, 447.	

Examiner	Date
Signature	Considered

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.